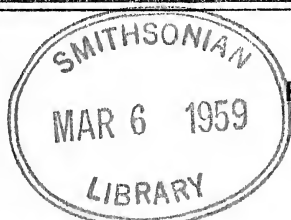


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PART 6

TRANSACTIONS
OF THE
SOCIETY FOR BRITISH
ENTOMOLOGY

World List abbreviation: *Trans. Soc. Brit. Ent.*

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DATE OF PUBLICATION, 1ST JANUARY, 1959

Copies may be purchased from the Publications Secretary,
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Price 7s. 6d. post free

**Published for the Society
by the British Trust for Entomology Ltd.**

REV. DIS.
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41 QUEEN'S GATE, LONDON, S.W.7

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TRANSACTIONS OF THE SOCIETY
FOR BRITISH ENTOMOLOGY

VOL. 13

1ST JANUARY, 1959

PART 6

NOTES ON PTEROMALIDAE (HYM., CHALCIDOIDEA), WITH
DESCRIPTIONS OF NEW GENERA AND SPECIES.

By M. W. R. DE V. GRAHAM

The present paper deals with some already described species (one of them new to Britain) which are not well understood and need to be placed in new genera; also with some other species from Britain, two of which are believed to be new to science.

Ardilea gen. n.

Occiput not margined. Anterior margin of clypeus with asymmetric teeth: two on the left side, the inner one longer than the outer, and one on the right side. Left mandible with three, right mandible with four teeth. Antennae inserted below middle of face but above ventral edge of eyes, thirteen-segmented (11263); pedicellus of ♀ longer than the first funicle segment; flagellum of ♀ subclavate, with funicle segments short, of ♂ nearly filiform with funicle segments longer than broad; clava of ♀ as seen in profile with the divisions between its segments not oblique, and with a small tuft of micropilosity upon the ventral surface of its terminal segment only. Sensillae of flagellum sparse, arranged in a single row upon each segment.

Pronotum rather long, with a finely margined collar. Mesoscutum with notaulices complete and deep throughout. Scutellum with frenal groove distinct, the frenum itself reticulate and not differing in type of sculpture from the rest of the scutellum. Propodeum mainly punctulate, medially produced beyond insertions of hind coxae; median carina weak, plicae distinct only posteriorly; spiracular sulci distinct, spiracles small, short-oval, separated by at least their own length from hind margin of metanotum. Lateral panels of prepectus having their upper margin as long as the tegula, their surface reticulate ventrally but with a smoother subtriangular space dorsally, separated from the rest by a more or less distinct oblique carina. Mesolcus distinctly impressed. Forewing: dorsal surface of costal cell with a row of hairs in its distal half, ventral surface with more numerous hairs; rest of wing hairy except for the speculum, which is reduced to a small oval isolated area just below the parastigma; postmarginal vein longer than the marginal, the latter longer than the stigmal, stigma small. Costal cell of hindwing bare. Hind tibia with two spurs, the second very weak.

Gaster petiolate; petiole reticulate, as long as or longer than broad, closed ventrally; gaster proper in ♀ ovate, as long as the thorax, in ♂ narrower and much shorter than the thorax and without a ventral plica.

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Type species: *Miscogaster convexa* Walker, 1833

Belongs to the subfamily Miscogastrinae (=Lamprotatinae), amongst which there are only two other European genera having both a margined pronotal collar and asymmetrical teeth on the clypeus, viz., *Merismus* Walker and *Callimerismus* Graham. *Ardilea* differs from *Merismus* in the less sharply margined collar, hairy basal cell and very small speculum of the forewing, and the antennal clava of the female (which in *Merismus* has a long strip of micropilosity extending over at least the last two segments of the clava). From *Callimerismus* it differs in having a more or less distinct oblique carina on the prepectus, in the hairy basal cell and very small speculum of the forewing, and in the pronotal collar, which has less prominent lateral angles. In reality *Ardilea*, although it shares with the above two genera the character of the margined pronotal collar, differs much in facies from both of them, and most resembles *Telepsogos* DeIucchi (1955), which is probably its nearest ally. It differs from that genus in having a margined pronotal collar; prepectus not evenly reticulate but with a dorsal smoother space marked off by an oblique carina; forewing with the basal cell wholly hairy and the speculum very small (in *Telepsogos* at least the proximal half of the basal cell is bare, while the speculum is larger and reaches down as far as the cubital vein); relatively longer propodeum; and large, strongly reticulate petiole.

***Ardilea convexa* (Walker), comb. n.**

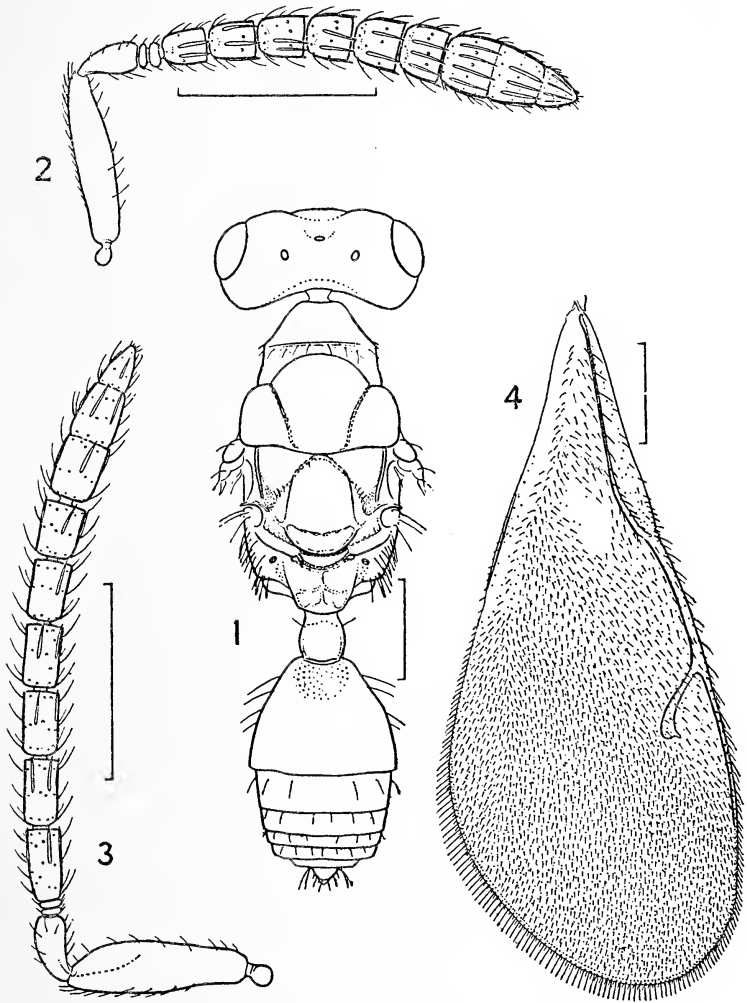
Miscogaster convexa Walker, 1833, *Ent. Mag.*, 1: 463.

Lamprotatus convexus Walker, 1848, *List Hym. Ins. Brit. Mus.*, Part 2. *Chalcidites*: 110.

Female [undescribed]. Body black with bronzy and greenish reflections which are most conspicuous upon parts of the head and thorax; mandibles mainly reddish; antennae black with a faint metallic gloss; coxae of the same colour as the body, legs otherwise fuscous with the knees, and fore tibiae, more reddish; tegulae reddish-fuscous, forewing slightly infumate, venation light fuscous. Length 2 mm.

In the shape and structural characters of the head, thorax and wings, resembles the male (see figs. 1 and 4). Head much broader than the thorax, in dorsal view 2.1 times as broad as long, with temples narrowing in a curved line behind eyes, about half as long as the eyes, ocelli in a triangle of 130°, POL : OOL as 1.4 : 1, occiput moderately deeply emarginate; frons with a slight depression in front of the median ocellus. In front view the head is 1.3 times as broad as high; eyes 1.4 their own length apart, their inner orbits parallel; genae converging rather strongly towards the mouth, malar space 0.4 the length of an eye. Mandibles not large, their lower margin slightly sinuate; teeth rather small, the left mandible with two acute teeth and a broadly truncate inner one, right mandible with three acute teeth and an obtuse inner one. Surface of head finely and delicately reticulate, somewhat shiny; clypeus shiny and almost smooth. Antennae (fig. 2) with scape sublinear, slightly flattened, not quite reaching the median ocellus; combined

length of pedicellus and flagellum 1.25 times the breadth of the head; pedicellus in profile nearly twice as long as broad; anelli discoid, the second



Figs. 1-4. *Ardilea convexa* (Walker). 1, body of male; 2, right antenna of female; 3, right antenna of male; 4, forewing of male. The lines showing the scale represent 0.25 mm.

slightly longer than the first; flagellum subclavate; funicle proximally hardly stouter than the pedicellus, with segments 1-3 slightly longer than broad, 4 quadrate, 5 and 6 slightly transverse; clava slightly broader than the funicle, as long as the three preceding funicle segments; sensillae relatively long, sparse.

Thorax about 1.7 times as long as broad, in profile not very strongly convex dorsally, the propodeum sloping at an angle of rather less than 45° relative to the plane of the mesoscutum and scutellum. Pronotal neck moderately long; collar very narrow medially but strongly broadening laterally, shiny and smooth posteriorly; rest of pronotum finely and delicately reticulate. Mesoscutum 1.7 times as broad as long, with convex lobes and deep, crenulate notaulices; delicately reticulate, finely so on the lateral lobes but rather widely-meshed on the median lobe. Scutellum moderately convex, hardly longer than broad, finely reticulate including the frenum; frenal groove distinct and slightly crenulate. Metascutellum slightly shorter than the frenum, nearly semicircular, alutaceous. Propodeum slightly shorter than the scutellum (1 : 1.3), its median area punctulate, the remainder weakly and irregularly reticulate; median carina irregular and not quite reaching the base; plicae distinct posteriorly, otherwise very fine and weak; traces of a transverse costula just behind the middle; nucha represented by a narrow subtriangular irregularly reticulate strip; supracoxal lamina rather broad. Mesopleuron (except the smooth mesepisternum), metapleuron, and hind coxa strongly and not finely reticulate; mesosternum with mesolcus deep and consute. Legs rather slender; tibiae slender (even though slightly flattened); mid tibia with its spur nearly as long as the first tarsal segment. Forewing (fig. 4) long, not broad; veins thin, relative lengths of Sm : m : p : s as 72 : 44 : 55 : 25; basal vein weakly pigmented, stigmal slightly curved.

Petiole as long as broad, shorter than propodeum, with sides nearly parallel (converging slightly near the base), convex, finely and densely reticulate. Gaster proper ovate, about as long as and as broad as the thorax, about 1.6 times as long as broad, convex both dorsally and ventrally; tergite 2 occupying rather less than one-third of total of gaster, its hind margin evenly curved; tergites 3-7 progressively shorter, 8 subtriangular and longer than 7.

Male. Colour brighter than in the female, the head and thorax having a conspicuous metallic tinge which varies from blue-green through green to golden or coppery-golden; legs paler, the fore and hind tibiae, and the apices of all the femora broadly, being usually reddish-testaceous.

Structure as in female, except as follows: antennae (fig. 3) with combined length of pedicellus and flagellum 1.4 times the breadth of the head, scape broader, its outer surface with an oblong shiny area antero-distally (the edge of which is shown by a dotted line in the figure); flagellum filiform, about as thick as the pedicellus; first funicle segment at least twice as long as broad and rather longer than the pedicellus, the following segments progressively slightly shorter; clava slightly shorter than the three preceding funicle segments; flagellum clothed with pale, rather outstanding hairs; sensillae very sparse. Scutellum slightly longer than broad. Petiole slightly longer than broad. Gaster much shorter and slightly narrower than the thorax; tergite 2 occupying nearly half of total length of gaster, its hind margin nearly straight though with a weak sinus on either side. Length 1.7-1.9 mm.

Redescribed from the following:

England: Hampshire, Southampton, 1 ♂ from Walker's collection, British Museum (Nat. Hist.); this specimen is now designated as lectotype of *Miscogaster convexa* Walker and bears three labels as follows: (1) "England," (2) "Southampton, May," (3) "Lamprotatus convexus Walker. Stood under this name in old B.M. Coll. C. Waterhouse." Ireland: Co. Down, Sliderry Ford, near Newcastle, 6.ix.1955, 2 ♂♂ (A. W. Stelfox); salt-marsh at the Estuary of the White Water, Benagh, i.vii.1957, 1 ♀ (M. W. R. de V. Graham).

Delucchi (1955, *Acta Univ. Lund. (new series)*, 50 (20): 91) erroneously placed *Miscogaster convexa* Walker as a synonym of *Toxeuma fuscicorne*.

Toxeuma Walker

Toxeuma Walker, 1833, *Ent. Mag.*, 1: 378; Thomson, 1876, *Hym. Scand.*, 4:243; Delucchi, 1955, *Acta Univ. Lund. (new series)*, 50 (20): 91.

In his study of the Lamprotatinae Delucchi (1955: 91) recognised only one species of *Toxeuma*, i.e., *fuscicorne* Walker, remarking "Après 120 ans d'existence, le genre *Toxeuma* Walk. reste monospécifique." He placed *Miscogaster* [recte *Lamprotatus*] *acilius* Walker as a synonym of *fuscicorne*. However, as I shall presently show, *acilius* is a good species whose female, hitherto unrecognised, is very different from that of *fuscicorne*. Two other species of the genus, both new to science, are described below, making a total of four species, all of which occur in Britain.

Toxeuma fuscicorne Walker

Toxeuma fuscicorne Walker, 1833, *Ent. Mag.*, 1: 378.

Toxeuma Ericae Walker, *ibid.*: 379.

Gastrancistrus Accia Walker, 1848, *List Hym. Ins. Brit. Mus. Part 2. Chalcidites*: 105, 156 (**syn. n.**).

This is the type species of the genus. Delucchi (1955: 91) has given a good redescription of it, to which it is only necessary to add a few remarks. An important feature which he does not mention is the mainly alutaceous gaster of both sexes; this character, and the elongate form of the gaster in the female, will easily distinguish *fuscicorne* from the other species of the genus. The colour of the body and legs varies considerably. The head and thorax are typically bright green, blue-green or golden-green, occasionally darker or bronzy-green. In the female, all the femora are usually more or less metallic, though sometimes the fore femur is wholly pale; the extent to which the tibiae are darkened is variable, the mid and hind tibiae being typically more or less broadly fuscous medially, though in dark specimens all the tibiae are infuscate, in pale specimens the hind tibia only. In the male, the legs tend to have the dark markings reduced, the fore femur being often wholly pale, sometimes also all the tibiae.

T. fuscicorne is the commonest species of the genus in Britain. In southern England I have often swept (in fine weather) some hundreds of specimens at a time within a comparatively small area. It may be found particularly in areas of mixed grasses (especially the edges of fields, roadside verges, etc.). Delucchi gives records of specimens taken in Switzerland and Hungary, in May; but in Britain I have not found it earlier than the beginning of June, and the peak of its emergence seems to be in July.

On 7th July, 1954, while collecting at Yelvertoft, Northamptonshire, my wife and I found extraordinary numbers of *fuscicorne* active between 7 and 8 p.m. in the grass of a roadside verge, and were able to observe a pair *in copula*. The female kept walking about slowly, carrying the male who was balancing himself on her back by holding on to her gaster with his legs. The pair remained thus for about half a minute, then the male broke away and walked off to a short distance, and began to polish his gaster and genitalia (the latter remaining extruded). One often finds males having the genital armature projecting in this way, so the feature is probably usual after copulation.

Toxeuma paludum sp. n.

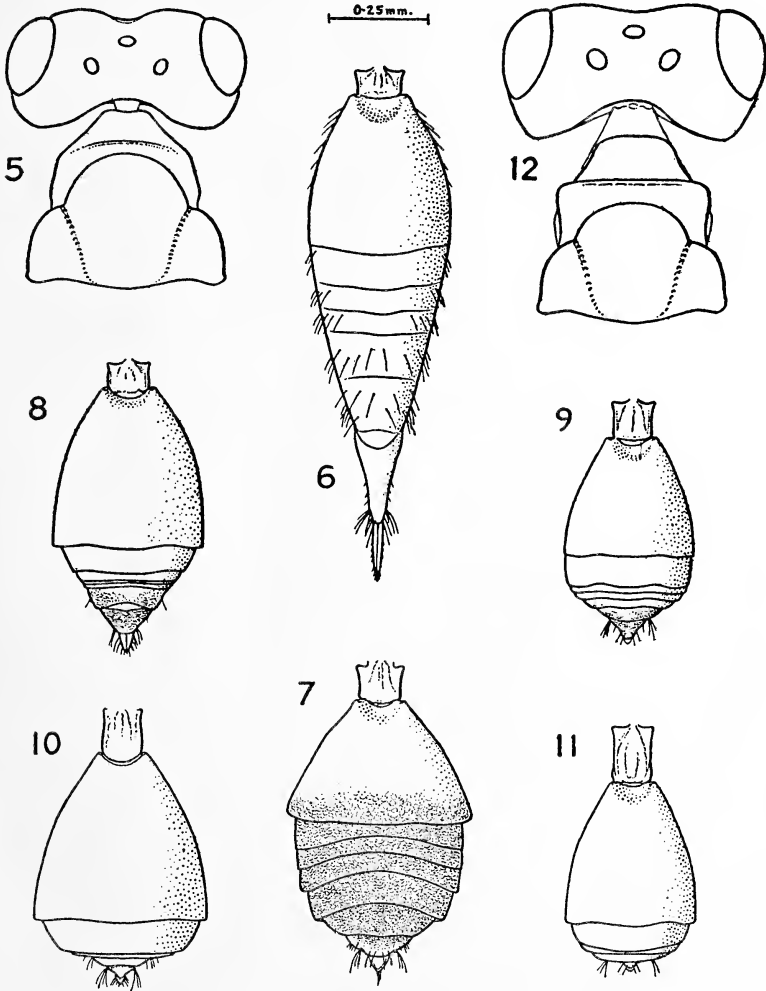
(Figs. 8, 9, 15, 16)

Female. Head and thorax dark blue-green; the occipital surface of the head and the pronotal neck almost black; petiole and gaster black with a more or less strong blue-green gloss. Mandibles fuscous, reddish at apex. Antennal scape and pedicellus dark blue-green, flagellum black with a faint bronzy tinge. Legs of the same metallic colour as the body, except for the knees, the apices of the tibiae narrowly, and the bases of the mid and hind tarsi, which are testaceous. Tegulae metallic, wings hyaline, venation fusco-testaceous. Length 1·6-1·8 mm.

Head about 1·2 times as broad as the mesoscutum, in dorsal view similar to that of *fuscicorne* Walk. (fig. 5) but slightly less transverse, and with the temples slightly more receding behind the eyes. Antennae with combined length of pedicellus and flagellum about equal to the breadth of the head; pedicellus in profile somewhat less than twice as long as broad and hardly longer than the anelli plus the first funicle segment; flagellum slightly stouter than in *fuscicorne*; funicle proximally nearly as thick as the pedicellus, its first three segments subquadrate, fourth slightly transverse, fifth and sixth distinctly transverse; clava slightly longer than the combined lengths of the three preceding funicle segments.

Pronotum shaped much as in fig. 12, the collar being sharply margined anteriorly and having its shoulders subrectangular. Scutellum hardly longer than broad. Propodeum about two-thirds as long as the scutellum; median carina and plicae less strong and more irregular than in *fuscicorne*, and the posterior half of the median area sometimes has indications of a transverse costula and, behind it, of some longitudinal ridges which are not usually present in *fuscicorne*. Wings similar to those of *fuscicorne*; legs rather less stout than in that species.

Petiole quadrate to slightly transverse, much shorter than the median length of the propodeum. Gaster slightly narrower than, and at most as long as (usually shorter than) the thorax, similar in shape to that of *acilius* (Walker)



Figs. 5-12. 5, *Toxeuma fuscicorne* Walker, female, head and part of thorax; 6, the same, female gaster; 7, the same, male gaster; 8, *T. acilius* (Walker), female gaster; 9, *T. paludum*, sp.n., male gaster; 10, *T. subtruncatum*, sp.n., female gaster; 11, the same, male gaster; 12, the same, female head and part of thorax.

(fig. 8), its surface smooth and shiny except for the last two segments which are slightly alutaceous.

Sculpture of the head, mesoscutum and scutellum rather coarser than in *fuscicorne*.

Male. Resembles the female, differing only as follows: Antennae (fig. 16) longer, the combined length of pedicellus and flagellum 1.25 times breadth of head; pedicellus slightly shorter; flagellum filiform, clothed with rather outstanding whitish hairs; funicle segments quadrate or slightly longer than broad. Gaster (fig. 9) obovate, much shorter and narrower than the thorax. Length 1.7 - 1.8 mm.

Closely resembles *acilius* (Walker), the most reliable characters for distinguishing it from that species being those given in the key below.

Type in the Hope Department, University Museum, Oxford.

England: Oxfordshire, Otmoor, 6.vii.1956, 1 ♂, 1 ♀ (the latter the type); 10.vii.1956, 1 ♂, 2 ♀♀; 12.viii.1956, 1 ♀ (all taken by M. W. R. de V. Graham).

Toxeuma acilius (Walker)

Lamprotatus Acilius Walker, 1848, *List Hym. Ins. Brit. Mus. Part 2. Chalcidites*: 111, 169.

Female [undescribed]. Head and thorax green, tinged with golden or bluish to a variable extent; petiole with a similar but weaker metallic tinge; gaster greenish-black, the metallic gloss stronger on tergite 2. Mandibles and palpi mainly testaceous. Antennal scape and pedicellus greenish-black, the scape nearly always testaceous basally, pedicellus usually pale at the apex; flagellum blackish. Coxae of the same colour as the thorax; remainder of legs bright or reddish-testaceous with the last segment and claws of all the tarsi fuscous (in some specimens the fore tarsus is slightly infuscate above, and rarely the hind femur may be slightly darkened medially). Wings subhyaline; tegulae metallic; venation dull testaceous. Length 1.7-2.0 mm.

In structure, closely resembles *paludum* sp. n., the distinguishing characters which appear to be most reliable being those given in my key.

Male. Resembles the female, except in the antennae and gaster. Antennal flagellum (fig. 13) either wholly reddish-testaceous, or else infuscate dorsally, slender; funicle segments 1.5 times as long as broad or more. Gaster like that of ♂ *paludum* (fig. 9). Length 1.7 mm.

Type in the British Museum (Nat. Hist.): one male, labelled as having originally stood under the name *Lamprotatus Acilius*, and which I now designate as lectotype.

Additional material. England: Berkshire, Wytham, 3.viii.1952, 1 ♀; 3.viii.1954, 2 ♀♀; 8.vii.1956, 1 ♀ (all taken in the meadows between Wytham Wood and the river Thames); Dorsetshire, Lodmoor, 27.vi.1955, 1 ♂. Scotland: Mid Perth, Kenmore, 19.vii.1954, 1 ♂. Sweden: Skåne, Fågelsång, 15.viii.1951, 1 ♀. All these specimens were taken by myself.

Toxeuma subtruncatum sp. n.

(Figs. 10-12, 14)

Female. Head, thorax and petiole dark blue-green; gaster bronze-black, with slight violet reflections upon tergite 2; mandibles fuscous, their teeth reddish; antennal scape and pedicellus dark blue-green, rest of antenna blackish; coxae concolorous with thorax, trochanters mainly testaceous, femora blackish with their tips, as well as the tibiae and tarsi, mainly testaceous (the tibiae are slightly darker medially, and the tarsi are fuscous distally); wings hyaline, venation fusco-testaceous. Length 1.9 mm.

Head in dorsal view (fig. 12) twice as broad as long, with temples about half as long as eyes, straighter and converging more strongly than in *fuscicorne*; occiput more deeply emarginate than in that species. Antennae with combined length of pedicellus and flagellum about equal to the breadth of the head, in structure similar to those of ♀ *paludum* (fig. 15) but with the flagellum more clavate, the funicle stouter (proximally slightly stouter than the pedicellus) and with more numerous hairs.

Pronotum (fig. 12): neck longer than in *fuscicorne*, collar with a nearly straight and strongly raised sharp margin anteriorly, shoulders of the collar prominent, subrectangular. Mesoscutum and scutellum more strongly and coarsely reticulate than in *fuscicorne*. Median area of propodeum rather longer than in *fuscicorne*, very finely and uniformly reticulate, with a few indistinct striae in addition to the reticulation. Legs more slender than those of *fuscicorne*.

Petiole (fig. 10) about 1.5 times as long as broad, almost as long as the propodeum, finely irregularly reticulate. Gaster proper slightly narrower and much shorter than the thorax, convex dorsally and somewhat keeled ventrally, shiny and smooth except for the last two segments, which are finely alutaceous; tergite 2 occupying about three-quarters of the gaster, its hind margin weakly bisinuate, tergite 3 much shorter, remaining tergites much retracted. Valvula ventralis extending to two-thirds of length of gaster.

Male. Resembles the female, but has darker legs, the mid and hind tibiae being fuscous except at base and apex; antennae (fig. 14) with combined length of pedicellus and flagellum about 1.2 times the breadth of the head, pedicellus shorter (about 1.5 times as long as broad and, in profile, about as long as the first funicle segment). The funicle is stouter than in the other species of the genus, obviously stouter than the pedicellus, and has more numerous sensillae; the funicle segments, apart from the first, are not or only slightly longer than broad. Length 1.6 - 1.9 mm.

Type in the Hope Department, University Museum, Oxford.

England: Berkshire, Wytham, 16.v.1951, 1 ♂; 4.vi.1952, 1 ♂; 16.vi.1954, 1 ♂ (the type); Warwickshire, Ufton Wood, 15.vi.1956, 1 ♀ (all taken by M. W. R. de V. Graham).

May easily be recognised by the long petiole, shape of the pronotal collar, and the mainly shiny gaster.

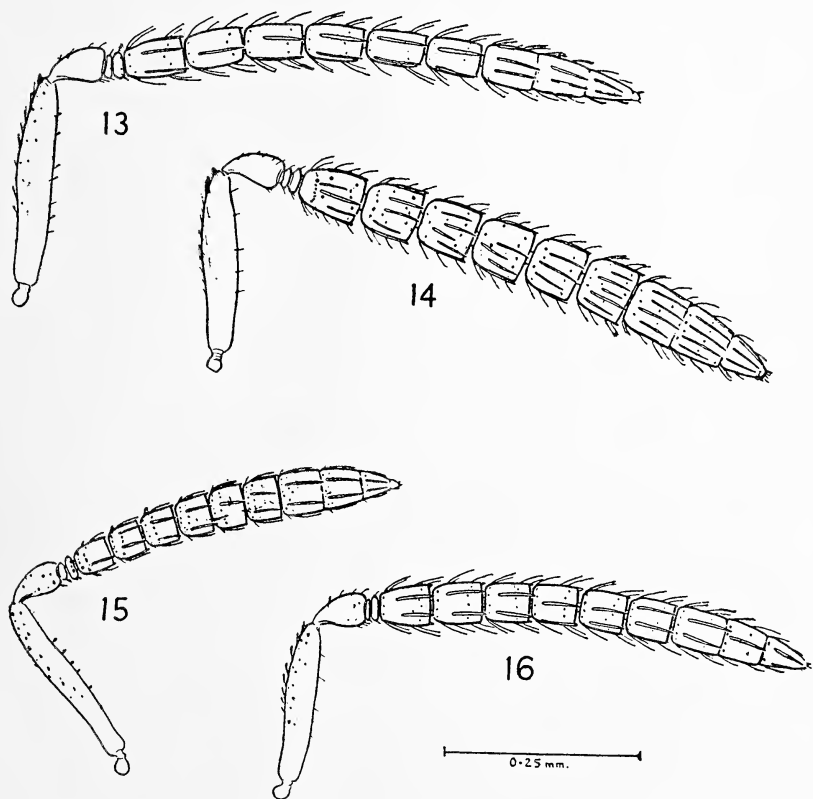
Key to species of *Toxeuma*

(Males and females)

1. Gaster (figs. 6, 7) alutaceous, except for the major part of tergite 2; that of the ♀ lanceolate, about three times as long as broad and longer than head plus thorax, with tergite 2 occupying hardly one-third of the total length of the gaster. Both sexes with the pronotal collar (fig. 5) less prominent at the shoulders; the mesoscutum and scutellum with relatively finer sculpture, head and thorax usually bright green, blue-green, or golden-green. Petiole of gaster in ♀ nearly twice as broad as long. *fuscicorne* Walker
- Gaster mainly smooth and shiny (except the last two segments, which are more or less alutaceous); that of ♀ (figs. 8, 10) ovate, at most twice as long as broad, as long as or shorter than the thorax, with tergite 2 occupying at least half of the total length of the gaster. Both sexes with the shoulders of the pronotal collar (fig. 12) prominent and subrectangular; mesoscutum and scutellum with relatively coarser sculpture; petiole of gaster varying from longer than broad to slightly transverse 2
2. Sculptured part of petiole (figs. 10, 11) longer than broad and almost as long as the propodeum. Gaster of ♀ (fig. 10) slightly more than half as long as the thorax, hardly 1.5 times as long as broad, with tergite 2 occupying about three-quarters of its total length. Head (fig. 12) larger, almost 1.5 times as broad as the mesoscutum, with temples longer and narrowing in a relatively straight line behind the eyes. *subtruncatum* sp. n.
- Sculptured part of petiole quadrate to slightly transverse, much shorter than the propodeum. Gaster of ♀ (fig. 8) normally about three-quarters as long (sometimes as long) as the thorax, and 1.5-2.0 times as long as broad, with tergite 2 occupying about half its total length or slightly more. Head 1.2-1.25 times as broad as the mesoscutum, with temples shorter and slightly more rounded off behind the eyes. 3
3. Legs mainly metallic, at most the trochanters partly, the knees, tips of the tibiae, and base of the tarsi, testaceous. Mandibles mainly fuscous. General colour of head and thorax dark blue-green. ♀ only: antennal funicle (fig. 15) with at most segments 1 to 3 quadrate, 4 slightly transverse, 5 and 6 distinctly so; scape metallic. ♂ only: flagellum (fig. 16) stouter, black; funicle segments quadrate or only a little longer than broad *paludum* sp. n.
- Legs, except the coxae and tips of the tarsi, reddish-testaceous (in one specimen the hind femur is slightly darkened medially). Mandibles mainly reddish-testaceous. General colour of head and thorax bright green. ♀ only: antennal funicle either with all its segments quadrate, or at most with the sixth slightly transverse; scape usually reddish-testaceous basally, rarely wholly metallic. ♂ only: flagellum (fig. 13) more slender, mainly reddish-testaceous; funicle segments 1.5 times as long as broad or more. *acilius* (Walker)

Hylocomus gen. n.

Female. Face convex, but not protuberant at level of antennal insertions. Occiput not margined. Anterior margin of clypeus broadly but shallowly emarginate. Genae converging very strongly towards the mouth, slightly sinuate above the mandibles owing to a weak hollow there. Mandibles of similar shape, both with four teeth. Antennae inserted slightly below middle of face but well above ventral edge of eyes, thirteen-segmented (11263); flagellum subcylindric; funicle segments longer than broad, the first longer

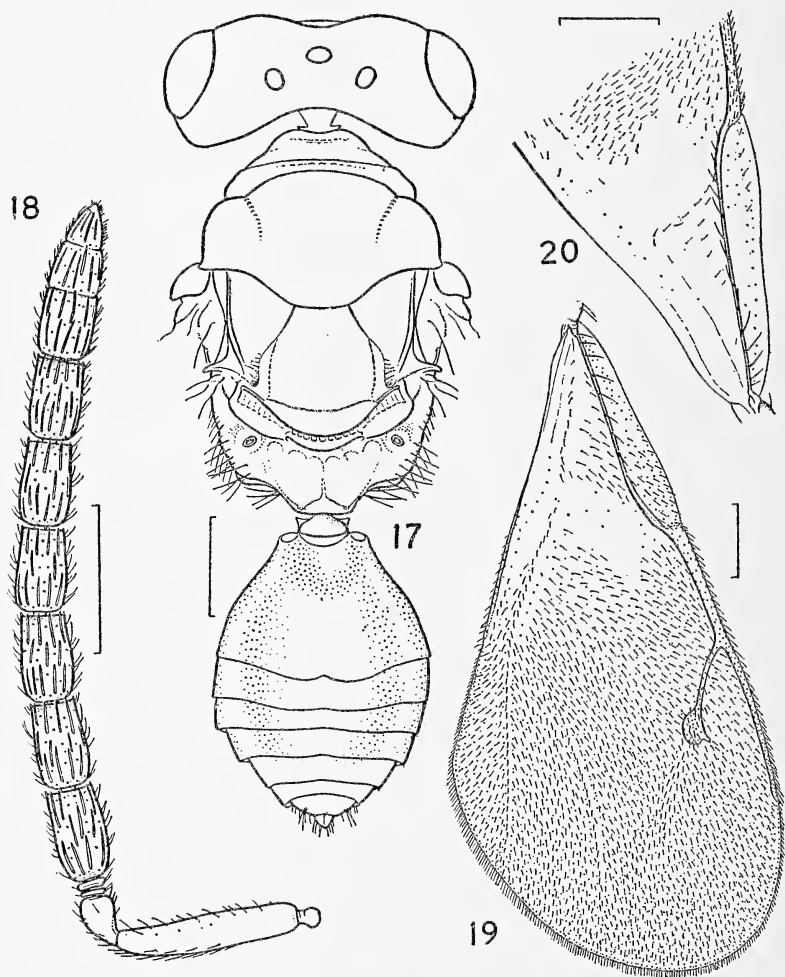


Figs. 13-16. *Toxeuma* spp., right antennae. 13, *T. acilius* (Walker), male; 14, *T. subtruncatum* sp.n., male; 15, *T. paludum* sp.n., female; 16, *T. paludum* sp.n., male.

than the pedicellus; clava with the divisions between its segments not oblique as seen in profile, its terminal segment only with a minute tuft of micropilosity.

Pronotum short; collar margined anteriorly. Mesoscutum with notaulices incomplete, visible in at most the anterior half. Scutellum with frenal furrow more distinct than usual in Pteromalinae (much as in *Schizonotus* Ratzeburg). Metascutellum transversely crescentic. Propodeum mainly punctulate, its median part relatively long and somewhat produced beyond insertions of

hind coxae; median carina more or less indicated but very fine, plicae indicated only posteriorly; nucha represented by a narrow subtriangular strip; spiracles oval, separated by less than their own length from hind margin of metanotum; spiracular sulci shallow, weakly reticulate, callus fairly thickly haired; supracoxal lamina narrow. Lateral panels of prepectus with their



Figs. 17-20. *Hylocomus* spp. 17, *H. magnicornis* (Thomson), body of female. 18, the same, right antenna of female. 19, the same, forewing of female. 20, *H. orneus* (Walker), proximal half of forewing of female. The lines showing the scale represent 0.25 mm.

upper margin about as long as the tegula. Mesepisternum smooth and shiny, separated from mesepimeron by a curved impressed line. Mesosternal mesolcus weakly impressed. Forewing with speculum of moderate size; basal vein, and distal part of basal cell more or less, hairy; marginal vein

slightly longer than stigmal but shorter than postmarginal; stigma small. Hind tibia with one spur.

Petiole inconspicuous, transverse, nearly smooth. Gaster ovate or rhomboid, at most as long as the thorax; tergite 2 relatively large, ovipositor hardly exerted.

Male. Unknown to me.

Type species: *Metopon (Dirhicnus) magnicornis* Thomson, 1878.

Thomson (1878: 170, 173) divided *Dirhicnus* into two sections, of which his section A includes the type (*subcoeruleus* Thomson) and other species, and section B which contains *magnicornis* only. *Hylocomus* does resemble *Dirhicnus* s. str. in many respects. It differs, however, not only in the characteristic antennae, which are longer, with strongly elongate funicle segments bearing more numerous sensillae, but in other characters. The genae are more strongly convergent towards the mouth, the mandibles larger, the face less convex, the scutellum has a distinct frenal groove, the propodeum is narrowed more strongly posteriorly and has the plicae only partial instead of complete, the gaster is pointed apically instead of obtuse, the legs are less stout, and the postmarginal vein is slightly longer than the marginal (instead of shorter); the sculpture of the head and thorax is also much stronger.

In wing-venation and most other characters it most resembles *Heteroprymna* Graham (1956), which may be its nearest ally. From this it differs in having the face of normal convexity, not protuberant at the level of the antennal insertions; the antennae are inserted higher, well above the ventral edge of the eyes, the flagellum is cylindrical with very numerous sensillae upon its segments, the scutellum has a sharper frenal groove, the propodeum is more strongly sculptured, with incomplete plicae and with larger oval spiracles which are closer to the hind margin of the metanotum.

***Hylocomus magnicornis* (Thomson), comb. n.**

(Figs. 17-19)

Female. Head and thorax dark olive- or slightly bluish-green, gaster bronzy with a bluish-green tinge basally. Mandibles and antennal scape fulvous in the type but darker in the English specimens, the latter having the scape more or less fuscous distally. Coxae of the same colour as the thorax; the legs otherwise testaceous with only the mid trochanter and the claws brownish in the type, but darker in the English females (the latter have the legs mainly fuscous with the knees, apices of the tibiae, and the tarsi mainly, testaceous). Tegulae testaceous or more or less infuscate; forewing slightly greyish, veins pale fuscous.

Length 1.9-2.1 mm.

Head much broader than mesoscutum (1.3 : 1), in dorsal view with temples narrowing behind eyes and nearly straight, about half as long as eyes, occiput fairly deeply emarginate and slightly raised just behind the ocelli, the angle between the vertex and the occipital surface being nearly 90°, ocelli in a triangle of about 130° POL : OOL as 1.3 : 1; in front view transversely oval, 1.3 times as broad as high, eyes 1.5 times their own length apart, their

inner orbits parallel, genae compressed, but not sharp, their outline forming a gentle curve, malar space equal to 0.4 the length of (or slightly more than half the breadth) of an eye. At the ventral end of the malar groove, just above the mandible, there is a slight hollow. Clypeus rather large, its anterior edge shallowly emarginate. Mandibles large, falcate; with teeth acute, the two outer ones long, the two inner ones short and closely approximated. Head rather finely reticulate more coarsely so on the frons); clypeus and lower part of face very finely radiately strigose. Antennae inserted hardly below middle of face; scape (excluding the radícula) sublinear, nearly reaching the median ocellus, about as long as the combined lengths of the pedicellus, anelli, first funicle segment, and one-third of the second funicle segment; pedicellus in profile about 1.5 times as long as broad; funicle stouter than pedicellus, its first segment about twice, sixth slightly less than twice, as long as broad; clava hardly broader than the funicle, about as long as funicle segments 5 and 6. The funicle segments are slightly swollen in their proximal half, and both they and the first claval segment have a double or triple row of short fine sensillae.

Thorax squat (about 1.5 times as long as broad) and strongly convex dorsally. Pronotum finely reticulate, its lateral lobes with a strongly impressed femoral groove, behind which the surface is mainly shiny and smooth; collar finely margined anteriorly, more or less smooth and shiny posteriorly. Mesoscutum convex, finely reticulate but more coarsely so in front of the scutellum; notaulices superficial except in front; the hind margin of the mesoscutum is strongly sinuate on either side. Scutellum strongly convex, slightly longer than broad (20 : 18), almost as coarsely reticulate as the posterior part of the mesoscutum. Metascutellum (dorsellum of Thomson) slightly shorter than frenum, convex, shiny (slightly alutaceous in front). Propodeum rather steeply declived, medially about half as long as scutellum; median area evenly and very finely punctulate and narrowing strongly towards the nucha, the latter forming a narrow subtriangular strip which has some extremely fine transverse striae; laterally the propodeum is relatively smooth, with traces of fine irregular reticulation; spiracular sulci hardly visible except posteriorly. Lateral panels of prepectus finely reticulate, with an upper smoother triangle sometimes marked off by a weak oblique carina. Mesepisternum smooth and shiny, remainder of mesopleuron, and the metapleuron, moderately finely reticulate, mesosternum very finely so, especially posteriorly. Legs rather short but not stout; fore tarsi as long as their tibiae, hind tarsi three-quarters as long as their tibiae. Forewing (fig. 19) long and broad, reaching well beyond apex of gaster; ventral surface of costal cell with a double row of hairs in its proximal half, the distal half of the cell having numerous hairs on both ventral and dorsal surfaces; basal cell mainly hairy, closed below by a line of hairs on the cubital vein; speculum of moderate size; more or less open below; relative lengths of veins $Sm : m : p : s$ as 77 : 43 : 57 : 36; stigmal curved, stigma oval and bearing rather numerous fine hairs. Costal cell of hindwing with a few hairs distally.

Gaster rhomboid-ovate, about 1.3 times as long as broad, at least slightly shorter and narrower than the thorax, deeply sunken and concave dorsally, convex ventrally; tergite 2 occupying nearly or quite half of total length of

gaster, its hind margin strongly curved and slightly or distinctly emarginate medially. The ovipositor sheaths are visible in about the distal third of the ventral surface of the gaster, and are rather stout.

Male. Thomson (1878: 173) gave a brief description of what he regarded as the male of *magnicornis*, noting how it differed from the female. A single male which now stands under the name *magnicornis* in Thomson's collection has a fulvous scape (Thomson says "scapo aeneo"); moreover it lacks the flagella of both antennae. I am not convinced that it is conspecific with the type female, and therefore leave the question of the male an open one at present.

Redescribed from the following material:

England: Berkshire, Bagley Wood, 17.vii.1957, 2 ♀♀ beaten from Norway Spruce (*Picea abies* (L.) Karst.) (Graham). Sweden: Dalarne province, 1 ♀, the lectotype of *magnicornis* Thomson: this bears three labels, viz. (1) "Dlc" [Dalecarlia=Dalarne]; (2) "Bhn" [Boheman]; and (3) "magnicornis Ths" in Thomson's handwriting.

Hylocomus orneus (Walker), comb. n.

Pteromalus Orneus Walker, 1839, *Mon. Chalciditum*, 1: 275.

Pteromalus Tychon Walker, 1848, *List Hym. Ins. Brit. Mus. Part 2. Chalcidites*: 124, 178, **syn. n.**

Female. Head and thorax dark greenish-blue, the mesoscutum and scutellum with a faint brassy tinge in places; gaster brownish, with the disc of tergites 2 and 3, and almost the whole ventral surface, reddish; tergite 2 with a slight metallic gloss at the base. Mandibles and scape fulvous; pedicellus brown with a faint metallic tinge; flagellum fuscous. Tegulae reddish, brownish at apex; forewing faintly yellowish, venation testaceous, the stigma a little darker. Legs reddish; mid and hind coxae bluish externally; femora brownish in one specimen; claws brown. Length 2.3 mm.

Resembles *magnicornis* in structure, but differs as follows:

Scape longer, about as long as the pedicellus, anelli, and first two funicle segments. Forewing (fig. 20): costal cell less hairy, there being only a single row of hairs in its proximal half; basal cell with only a few hairs distally, and open below; speculum broader; postmarginal vein not so long relative to the marginal (ratio of veins m : p : s as 37 : 42 : 28). Hindwing: costal cell bare. Gaster almost as long as and as broad or slightly broader than the thorax, hardly sunken dorsally; hind margin of tergite 2 entire.

Male. Unknown.

England: unlocalised, 1 ♀ from Walker's collection, British Museum (Nat. Hist.), now designated as lectotype of *Pteromalus Tychon* Walker; the specimen bears a label stating that it originally stood under that name in the old British Museum collection. France: 1 ♀ from Walker's collection

(lectotype of *Pteromalus Orneus* Walker) in the British Museum (Nat. Hist.); Walker's record of *orneus* is "July; south of France."

Nowicky (1939, *Z. angew. Ent.*, 25: 473-477, figs. 1-6) described a bred female Pteromalid, taken in Poland, under the name of *Dirhicnus magnicornis* Thomson. When I examined Thomson's type of *magnicornis* I noted some features in which it differed from Nowicky's description. After studying the type of *orneus* Walker, I concluded that the female described by Nowicky belonged to this species and not to *magnicornis*. Nowicky's description, and especially his figures 2 (antenna) and 5 (forewing) agree very well with the type of *orneus*. I should point out that in his figure 3, the plicae of the propodeum are shown as well-defined throughout, whereas in his description he says (p. 475) "Seitenkiele in der Basalhälfte nicht ganz deutlich . . ." Probably the description, and not the figure, is correct. The female described by Nowicky was bred from a *Diprion*-pupa at Magnuszew, Middle Poland, by Herr Zarzecki, and is in the collection of the Institut für Forstschutz der Hochschule für Bodenkultur, Warsaw.

I wish to thank Mr. J. F. Perkins and Mr. G. J. Kerrich of the British Museum (Nat. Hist.), and Professor Carl H. Lindroth, Zoologiska Institutionen, Lund, for granting me facilities for studying Walker's and Thomson's types.

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